

Listing of Claims

Amendment to the Claims:

The listing of the claims will replace all prior versions, and listings, of claims in the application.

Please amend the claims as follows:

Claims 1 to 13 (canceled).

14. (Currently Amended) A method of combusting a propellant within a port ~~having a gas stream flowing through the port~~, comprising the steps of:

flowing the ~~a~~ gas stream through the port; and

combusting said propellant and gas, wherein said propellant consists essentially of a mixture of one or more paraffin waxes, and carbon black at a concentration in the range of about 0.2 to 2.0 weight percent. ~~, under heat transfer from the gas stream flowing though the port, forms a liquid layer with surface tension σ and liquid viscosity μ_l , values that promote entrainment of droplets from said liquid layer into said gas stream flowing in said port, and said propellant has an a_{onset} value, where a_{onset} is the entrainment onset parameter and is given by:~~

$$a_{onset} = 1.05 \times 10^{-2} [\rho_g^{+3} / \rho_l^{-0.3}] [1 / (0.03 C_{Bl})^{0.8}] (1 / \mu_g) \sigma \mu_l^{-0.6};$$

where ρ_g is the average density of the gas stream in the port, ρ_l is the average density of the propellant in the liquid layer, C_{Bl} is the blowing correction coefficient and is given by:

$$C_{Bl} = (2 / 2 + 1.25 B 0.75)$$

where $0 < B < 15$, and μ_g is the mean gas viscosity of the gas stream in the port, and [the units of] a_{onset} is equal to or less than approximately $0.9 \text{ kg}^{+6} / (\text{m}^{-2.6} \text{ sec}^{-1.6})$.

Claims 15 to 18 (canceled).

Please cancel Claim 19.

19 (canceled).

Claims 20 to 48. (canceled).

49. (Currently Amended) A method of combusting a propellant within a port ~~having an oxidant flowing through the port~~, comprising the steps of:

flowing the an oxidant through the port; and
combusting said propellant and oxidant where
the propellant is comprised of a mixture of one or more paraffin waxes having a mean carbon number in the range of 15 to 80 and, under the heat transfer from the oxidant flowing through the port, the propellant forms a liquid layer having a liquid viscosity of less than about 1 milliPa-sec, and a surface tension of less than about 25 milliN/m.